(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 3 June 2004 (03.06.2004)

PCT

(10) International Publication Number WO 2004/047065 A1

(51) International Patent Classification⁷:

G09G 3/32

(21) International Application Number:

PCT/IB2003/004999

(22) International Filing Date:

4 November 2003 (04.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

02079770.0

15 November 2002 (15.11.2002) EP

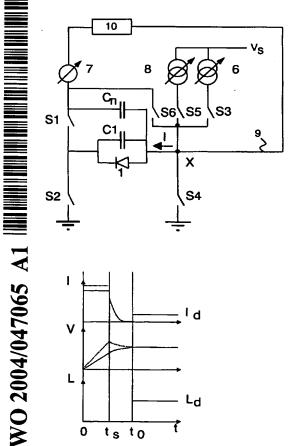
- (71) Applicant (for all designated States except US): KONIN-KLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): KLEIN, Markus,

H. [DE/DE]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). DE JONG, Douwe, T. [NL/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). TOUSSAINT, Serge, L., G. [NL/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). SEMPEL, Adrianus [NL/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). LOS, Remco [NL/PE]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). SNI-JDER, Pieter, J. [NL/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). GIELKENS, Olaf [NL/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

- (74) Agent: DEGUELLE, Wilhelmus, H., G.: Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT.

[Continued on next page]

(54) Title: DISPLAY DEVICE WITH PRE-CHARGING ARRANGEMENT



(57) Abstract: The invention relates to a display device comprising a plurality of light emitting elements (1), wherein at least one of the elements has an associated capacitor (C1). The display device comprises pre-charging means (7;8) for generating a pre-charge signal for charging the associated capacitor (C1) at least partly. The pre-charging means (7;8) are adapted for generating a pre-charge signal comprising at least a first pre-charge signal in a first pre-charge stage and a second pre-charge signal in a second pre-charge stage. The precharge signal preferably comprises a current pre-charge signal followed by a voltage pre-charge signal. The combined pre-charge signal has the advantage of fast, but accurate precharging.

1 ٧ L L_d ť 0 ts to

B

Α

WO 2004/047065 A1



RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,

SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.